



BRIA Indonesia
 completes a farmer survey
 for evaluation



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BRIA completed a baseline survey to compile profiles of BRIA farmers and farming practices in the two BRIA pilot provinces of North Sumatra and East Java and to monitor and evaluate the Impacts of BRIA interventions (Farmer Field School or FFS and Market Linkages) towards sustainability. The baseline survey covered 600 rice producing households, who were participants in the BRIA programme covering three districts of Langkat and Serdang Bedagai in North Sumatra and Jember in East Java. In the two provinces where the survey was conducted, agriculture is a very important sector where most people work in the field. The total areas for agriculture are large within the three districts.

Respondents' Profiles

The respondents are rice producing householders participating in the FFS. They are active farmers in their villages, best farming practitioners within the communities. The purposive sampling method was used.

Age (Yrs)	North Sumatra		East Java	
	Frequency	Percent	Frequency	Percent
<35	48	17.6	43	13.1
35-44	65	23.8	94	28.7
45-54	101	36.6	113	34.6
55-64	47	17.2	52	15.9
>65	12	4.4	25	7.6

Men are still the majority to represent a family. In East Java, only 26 participants in the survey are female while 301 are male. The decreasing number of female farmers in East Java might be due to agricultural modernisation and technology, the reduction of cultivation land, characteristics of a feudal, patriarchal society, and overseas employment opportunities as female labourers. The majority in North Sumatra were 51 years old and in East Java, 55 years old. There is a tendency that farming might not be a favorite option for the youth. In the last category, farmers below 35 years old are still the minority with only 17.6% in North Sumatra and 13.1% in East Java.

Households usually have other kinds of income-earning activities such as animal husbandry or raising livestock. Although tasks are divided between husband and wife, overall they both work collaboratively. 93.65% were married (the union of two people as partners officially recognized by law and religion). Respondents feel socially and psychologically settled. They have responsibilities towards their spouses and children. Therefore, farming is no longer an experiment but it has been a permanent job for them.

Most respondents in North Sumatra and East Java have primary school education. However, about 5.9% and 5.2% of respondents in both provinces did not complete primary school. It indicates that farmers' education is low since primary school is only the first stage of basic formal education in Indonesia.

Baseline Results

To ensure quality, it is important to identify the source of seeds being planted. In both provinces, most respondents still depend on subsidised seed from the government. However, subsidised seed is usually unstable in availability and it is sometimes difficult to have the seed or the seed is not available at the preferred time of planting. Especially in North Sumatra, the use of seed from their own harvest is high at about 36.6%. Labelled seeds from particular seed growers still accounted for a low percentage at only 11% in North Sumatra and 3.7% in East Java. To meet seed demand in North Sumatra, BRIA is supporting farmers to become growers of quality rice seeds.

With regard to planting method, most respondents used Tegel/Ubin. BRIA is promoting the Jajar Legowo principle (Legowo 4:1), which is to have a free space after 2 or 4 lines and add insert between crop inline. This method has been proven to raise productivity. However, implementing Jajar Legowo will add a little bit more to the planting cost (labour) since it takes more time to apply on the field than other types of planting methods.

The other aspect in planting technology is cultivation of other plants after the main crop has been harvested. There are two contrasting characteristics in both provinces. In North Sumatra, 81.3% do not apply crop rotation with only 18.7% rotating crops with vegetables, corn, soybean, and nuts. In East Java, 85.3% plant rotation crops such as corn, soybean, vegetables, and nuts.

Regarding fertilisation, there are several kinds of fertilisers in Indonesia. Each fertiliser has its own nutrient content. To apply fertiliser, farmers should have a specific calculation regarding the amounts of nutrients needed. On the contrary, farmers rarely assess the nutrient content of their soil. They apply fertiliser based only on their personal experience or common practices and recommendations while in fact, the use of PUTS (Rapid Soil Test Kits) and BWD (Colour Leave Chart) are highly recommended. PUTS is used to define the dosage before planting. BWD is used to define the dosage 21 days after planting.

The survey results on pesticide application were as follows:

Indicator	Category	North Sumatra	East Java
1 Chosen time to use pesticides	At the moment of the outbreak	72.9%	77.7%
	Spraying calendar	5.1%	4.0%
	Preventive action	21.2%	16.8%
	Economic threshold	0.7%	1.5%
2 Ways to keep pesticides	Inside the house with storage	18.7%	62.4%
	Outside the house with storage	68.5%	19.9%
	Inside the house without storage	3.7%	15.0%
	Outside the house without storage	9.2%	2.8%
3 Treatment of disposable pesticide pack	Thrown away	85.8%	65.7%
	Re-cleaning, then buried	9.2%	18.6%
	Burn down	5.1%	15.6%
4 Read pesticide label	Yes	82.8%	90.2%
	No	17.2%	9.8%

Concerning PPE application, skin contact is the most common cause of pesticide poisoning for applicators and some pesticides enter the body through the skin quite readily. It is best to avoid direct contact with pesticides by wearing proper Personal Protective Equipment (PPE). In North Sumatra, 81.3% of respondents claimed to use PPE. Only two types of PPE were used, i.e. mask and long sleeve shirt. In East Java, 79.2% of respondents claimed to use PPE. More types of PPE were used such as long sleeve shirt (50.2%), mask (23.5%), eye protector (4%), and hand gloves (1.5%).

Harvesting is the process of collecting the mature rice crop from the field. Harvesting of paddy includes cutting, stacking, handling, threshing, cleaning and hauling. Good harvesting methods maximise grain yield and minimise grain damage and quality deterioration. Harvesting can be done manually with traditional tools such as sickles and knives or mechanically with the use of threshers or combine harvesters.

The survey has showed that farmers have a lot of experiences in rice production. The majority of householders have been trained on technical practices with comprehensive understanding about basic rice production techniques. Several householders have also been trained on and applied sustainable rice farming. These elements have become favorable conditions for introducing and transferring new rice production techniques and technical knowledge.

Readers can obtain the full reports on baseline survey of BRIA farmers for the four countries from Publications of the BRIA website.

